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Flood Country*: An environmental history of the Murray-Darling basin*

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The inter-relationship between people and the environment within the Murray-Darling basin provides the framework for this book, within which the social and cultural responses to floods and droughts are examined since 1850, ranging from the experiences of the early Anglo-Celtic settlers through to contemporary engineering and federal governmental attempts to manage the broader environment. The focus of the book is on the responses of rural and to a lesser extent urban populations in responding to the hydrological extremes experienced within the basin over the period of study and the challenges and conflicts that arise when many want to use a resource (water) for wide and varied purposes.

The book is structured so that it examines four case study floods in detail following European settlement which present the backbone of the book. Starting with the 1852 flood of Gundagai; the flooding of Bourke in 1890; the floods of Mildura in 1956 and finally the flooding of south-western Queensland in 1990, between each of these are intervening chapters which focus on key land-use changes or broader perspectives of activities being undertaken which provide some context for the case study chapters, these include the implications of pastoralism and mining; federation, engineering and a watershed perspective; and, the impact of dams and irrigation. Brief Introduction and Conclusion sections are provided, through these could have been extended to provide greater context so that the reader who may not be as familiar with Australian history could have contextualised the main chapters within a broader national historical context.

The 1852 flood of Gundagai is the worst in Australian history for loss of life, and followed several floods during the preceding years, but rather than move away from the valley bottom, settlers rebuilt on the site identified by the government for the settlement. The chapter details the tensions between local and colony-wide understanding in relation to environmental knowledge, with clear documentation of information passing from the local indigenous peoples to the incoming settlers. The settlement of Gundagai was located at a natural fording point on the River Murrumbidgee, the settlement site was determined by the colonial government following surveys in the late 1830s, with what appears little consideration for the potential flood risks and more for strategic colonial expansion. The chapter provides a detailed account of the 1852 flood, based on historical source materials, chronicling the rise of the flood waters, individual and family responses, loss of buildings and deaths, and then the responses as the flood waters receded at local, regional and governmental levels.

Chapter 2 examines the role of pastoralism and mining within the catchments during the period 1850-1890, with a focus on how floods and droughts shaped water management within the catchments, as the role government played in managing water resources during a period of rapid environmental exploitation and colonial expansion increased. The use of river water and flood flows within gold mining was carefully managed, which contrasts sharply with the limited constraints placed on pastoral practices and water use; this contrast in regulation and management shaped how settlements perceived river and particularly flood waters, but also the degree to which individuals innovated in protected themselves, particularly from drought.

The flood of 1890 threatened the principal wool loading town of Bourke, a regional centre for the nationally important wool industry, which had far reaching economic, social and political consequences, with significant implications to future settler-environment interactions. The importance of wool within the development of a forming national Australian identity away from that of the British Empire should not be underestimated, and the plight of Bourke as a icon symbolic of the ‘the bush’ helped focus imagination of the frontier life. The chapter details the development and construction of the earth flood defences around the town, as the flood waters rose and the national significance this took on. It examines the consequences of the flood once the flood defences are breached, focusing on the impact of the event, in shaping how people interacted with the environment, and more generally the move towards a more engineering approach to flood management, which has persisted in many countries for most of the twentieth century, it also examines the relationship between settlements and government in Australia in taking responsibility for and management of ‘flood risk’. The chapter also provides a brief examination of early meteorology and weather prediction in Australia.

Chapter 4 details how the Murray Basin became the focal point for river development, and therefore the management of floods and droughts through engineering practices. The chapter examines the development of hydroelectric dams within the rivers course and the move from navigation to irrigation as the primary driver in water regulation, with the need for watershed administration and how this was facilitated from a federal bureaucratic perspective through the period 1890-1956.

The flood of 1956 on the Darling and Murray Rivers, particularly in the Mildura district on the Murray saw the demise of engineering as the ‘holy grail’ of water management, as the government had failed to protect them, but also failed to manage the river. Some residents blamed the upstream water retention structures for exacerbating the flood magnitude, whilst other blamed the failure on the loss of local flood knowledge as a result of the engineering solution. The chapter explores these aspects through detailed accounts and reports from the flood event, coupled with aerial photography of the flooded valleys. The use of and implementation of flood warnings and flood control are discussed, with increased expectations following the 1956 flood on the provision of information concerning flood warnings during future events, arising from improved dissemination and better predictive technologies with the basin, with a valuable review of the Australian river gauging network pre-1950.

Chapter 6 explores how attitudes changed in the wake of the 1956 floods towards river management structures and particularly dams, which supported irrigation practices. The chapter explores the relationship between dams and people during the period 1956-1990, with a changing perception, from tools for developing irrigation, to challenges in operation and finally the environmental implications of dams and irrigation on the wider environment.

The final chapter examines the flood that did not flood at Cunnamulla in 1990, with the chapter focussing on the differences between the centralised state approach to flood management, knowledge and warning in contrast to that of local flood knowledge; with comparison drawn to the town of Charleville upstream of Cunnamulla which was evacuated. The chapter examines the tensions and understanding that can be provided when local and state capabilities come together, this is done within the context of Cunnamulla, where evacuation was initially indicated, and then withdrawn following the inclusion of local flood knowledge. The chapter then examines what the future holds within a changing climate and the importance of embedding local knowledge into flood and broader water management planning.

In conclusion, the book presents an interesting and detailed examination of the human-environmental interactions within the Murray-Darling river basins, with a detailed examination on the development of the basin from a human perspective. It would have been beneficial if the book had provided a discussion of the broader environmental impacts that the floods and droughts had on the watershed, particularly from an ecological perspective, whilst this is indeed identified in brief conclusions section, it warranted a much more in-depth examination. The book provides a detailed discussion of the Murray-Darling basin explaining its current form and much of its land use within a rich historical context. The historical illustrations of the flood and droughts events are excellent throughout, these come from a variety of sources and convey the impact of the events on the settlements and in several instances clearly depict the responses, e.g. through elevated train-lines and embankment structures. A detailed reference list is provided at the end of the chapter illustrating the level of research undertaken by the author in the compilation of the manuscript, but also provides valuable links for researchers to return to the original source materials and interrogate for themselves.

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